

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-6 – cancelled.

7. (New) An MRI apparatus which comprises an MRI shim coil having a plurality of layers with a plurality of turns wherein the MRI shim coil is wound in two or more sections, each section of the MRI coil incorporating some or all of said plurality of layers, but only some of the turns in each layer.

8. (New) An MRI apparatus as in claim 7 wherein insulating material is disposed between each layer of turns in addition to the insulation otherwise disposed about each conductor.

9. (New) An MRI apparatus as in claim 8 wherein the insulating material is glass cloth.

10. (New) An MRI shim coil comprising:
a plurality of layers of turns of electrically insulated electrical conductor;
said turns being interconnected so as to define plural coil portions by connecting at least one turn at a boundary of one coil portion to another turn located in a different layer at said boundary in an adjacent different coil portion.

11. (New) An MRI shim coil as in claim 10 wherein additional insulating material is disposed between each layer of turns.

12. (New) An MRI shim coil as in claim 11 wherein said additional insulating material comprises glass cloth.

13. (New) A method for increasing the self-resonance frequency of an MRI shim coil, said method comprising:

interconnecting turns of said MRI shim coil to define plural coil portions by connecting at least one turn at a boundary of one coil portion to another turn located in a different layer at said boundary in an adjacent different coil portion.

14. (New) A method as in claim 13 further comprising:

disposing additional insulating material between at least some layers of turns in said coil.

15. (New) A method as in claim 14 wherein said additional insulating material comprises glass cloth.